

REMARKS

Claims 1-4, 6-24 and 26-31 remain in this application, claims 5 and 25 having been canceled. Independent claims 1 and 17 have been carefully amended and reconsideration is courteously requested.

The present invention as now set out in the amended claims concerns a set of articles having a novel identification system that is neither taught nor suggested by the prior art of record. In the set of articles, each article includes a body having an exterior surface with a polymer coating extending over the exterior surface, and the coating includes both a certain region and a certain area that is spaced from the certain region. The polymer coating presents a genus identification mark in the certain area. A laser engraved identification mark is formed within the certain region of the coating, and the laser engraved identification mark is a species mark.

The concepts now set out in amended claim 1 provide a number of important advantages. For example, a number of articles may be manufactured in advance bearing the coating with a genus identification mark, but not a species identification mark. As the articles are taken out of inventory when needed, a laser apparatus can then be used to create a species identification mark. As such, only one article need be kept in inventory, since the species identification marks can be applied later as needed.

For instance, a number of containers may be made in advance bearing a polymer coating that includes genus identification mark information such as a manufacturer's name and address or a brand name of the product. As the containers are taken from inventory, a laser can then be used to inscribe species identification marks such as lot numbers, date markings (e.g., freshness dates or date of manufacture), size or color. Such construction is a benefit in that many of the identification marks can be applied in advance, while only certain identification marks need be completed at the time that the container is filled by the manufacturer.

In the '929 Robertson et al. patent, a pipe label 12 is painted and then ablated by a laser 30. As shown in Fig. 2, the label 12 includes alphanumeric characters 14, graphics 16 and the picket fence bar code 18. However, and as described in column 3, lines 13-18, all of these markings including the characters 14, the graphics 16 and the bar code 18 are created by ablation of the topcoat 20. There is no indication in this patent that any of those markings are made by any process other than by laser ablation.

Consequently, the paint coat label 12 does not present a genus identification mark in an area that is spaced from a laser engraved identification mark. All the marks shown in this patent are formed by laser engraving. None of the advantages of applicant's invention are provided by the construction set out in the '929 patent.

Independent method claim 17 has also been amended. Claim 17 now recites that the act of directing a laser beam toward a coating creates a species mark, and the act of applying the coating to the exterior surface includes the act of creating a genus mark that is distinct from the species mark. For many of the reasons set out above, it is believed that claim 17 should be allowable as well.

Furthermore, the dependent claims also set out patentable subject matter. The references simply do not disclose the concepts set out in these claims.

For the foregoing reasons, it is believed that the application is now in full condition for allowance and such action is courteously appreciated. In the event questions remain, however, the Examiner is invited to contact the undersigned by telephone at his convenience.

Respectfully submitted,

2/1/2000
Date

By: James D. Christoff
James D. Christoff, Reg. No.: 31,492
Telephone No.: 651-733-1512

Office of Intellectual Property Counsel
3M Innovative Properties Company
P.O. Box 33427
St. Paul, MN 55133-3427
Facsimile No.: 651-736-3833

Version With Markings to Show Changes Made to the Claims

- 1.(amended) [An] A set of articles, each article comprising:
 - a body having an exterior surface with a certain color;
 - a polymer coating extending over [a certain region of] the exterior surface, the coating having a color that contrasts with the color of the exterior surface, the coating including a certain region and also a certain area that is spaced from the certain region, the polymer coating presenting a genus identification mark in the certain area; and
 - a laser engraved identification mark formed within the certain region of the coating, the laser engraved identification mark being a species mark.
- 2.(amended) [An article]A set of articles according to claim 1 wherein the exterior surface of at least one article is visible within the species identification mark.
- 3.(amended) [An article]A set of articles according to claim 2 wherein the exterior surface visible within the species identification mark of at least one article is devoid of surface irregularities.
- 4.(amended) [An article]A set of articles according to claim 1 wherein the laser engraved identification mark of at least one article has a color that is different than the color of the polymer coating.
- 6.(amended) [An article]A set of articles according to claim 1 wherein the polymer coating of at least one article has a color presenting [a] the genus identification mark[, and wherein the laser engraved identification mark is a species mark].
- 7.(amended) [An article]A set of articles according to claim 6 wherein [the] at least one article includes a container and a product in the container, and wherein the color of the polymer coating of the at least one article matches the color of the product.

8.(amended) [An article]A set of articles according to claim 7 wherein the product is a dental sealant or a dental restorative material.

9.(amended) [An article]A set of articles according to claim 1 wherein [the]at least one article is a product container having a polymeric body and a chamber within the body.

10.(amended) [An article]A set of articles according to claim 9 wherein the product container includes a flowable material within the chamber.

11.(amended) [An article] A set of articles according to claim 10 wherein the material is a dental sealant or a dental restorative material.

12.(amended) [An article]A set of articles according to claim 11 wherein the color of the polymer coating matches the color of the dental material.

13.(amended) [An article]A set of articles according to claim 1 wherein [the]at least one article also includes a laser engraved identification mark that is spaced apart from the region of the exterior surface and is more difficult to see than the laser engraved identification mark formed within the [coating]certain region.

14.(amended) [An article]A set of articles according to claim 13 wherein the laser engraved identification mark that is spaced apart from the region of the exterior surface includes information selected from a group consisting of shelf life data, expiration data, date of manufacture, serial number, batch code data and lot code data.

15.(amended) [An article]A set of articles according to claim 1 wherein [the]at least one article includes a container and a product in the container.

16.(amended) [An article] according to claim 1 wherein [the]at least one article is an orthodontic band.

17.(amended) A method of marking [an]a set of articles comprising the acts of:

selecting a polymer coating having a color that contrasts with the color of an exterior surface of [the]each article;

applying the coating to a certain region of the exterior surface of [the]each article; and

directing a laser beam toward the coating with sufficient power to cause at least a portion of the coating to undergo a chemical reaction and create an identification mark, wherein the act of directing the laser beam toward the coating creates s species mark, and wherein the act of applying the coating to the exterior surface of the article includes the act of creating a genus mark that is distinct from the species mark.

18.(amended) A method of marking [an article]a set of articles according to claim 17 wherein the act of directing a laser beam toward the coating causes at least some of the coating to volatilize.

19.(amended) A method of marking [an article]a set of articles according to claim 18 wherein the act of directing a laser beam toward the coating does not cause any surface irregularity on the exterior surface of [the]at least one article.

20.(amended) A method of marking [an article]a set of articles according to claim 18 wherein [the] at least one article comprises a container made of a polymeric material and wherein the act of directing a laser beam toward the coating does not substantially soften the exterior surface of the container.

21.(amended) A method of marking [an article]a set of articles according to claim 17 wherein the act of directing a laser beam toward the coating causes at least some of the coating to polymerize.

22.(amended) A method of marking [an article]a set of articles according to claim [1]17 wherein the act of directing a laser beam toward the coating does not cause any substantial amount of surface irregularities on the exterior surface of the article.

23.(amended) A method of marking [an article]a set of articles according to claim 17 wherein the act of directing a laser beam toward the coating causes at least some of the coating to change color.

24.(amended) A method of marking [an article]a set of articles according to claim 23 wherein the act of directing a laser beam toward the coating does not cause any substantial amount of surface irregularities on the exterior surface of [the]at least one article.

26.(amended) A method of marking [an article]a set of articles according to claim 17 wherein the act of [directing a laser beam toward the coating creates a species mark, and wherein the]creating a genus mark includes the act of selecting a color of the polymer coating [is representative of a genus mark].

27.(amended) A method of marking [an article]a set of articles according to claim 17 wherein [the]at least one article comprises a container and a product in the container, and wherein the act of selecting a polymer coating includes the act of selecting a polymer coating that has a color matching the color of the product in the container.

28.(amended) A method of marking [an article]a set of articles according to claim 27 wherein the product is a dental sealant or dental restorative material.

29.(amended) A method of marking [an article]a set of articles according to claim 17 and including the act of directing the laser beam toward [the]at least one article at a location spaced from the coating in order to create another identification mark.

30.(amended) A method of marking [an article]a set of articles according to claim 29 wherein the act of directing the laser beam toward [the]at least one article at a location spaced from the coating creates an identification mark that is more difficult to see than the identification mark that is created by the act of directing a laser beam toward the coating.

31.(amended) A method of marking [an article]a set of articles according to claim 17 wherein [the]at least one article is an orthodontic band.